

Abstract of the Disclosure

Method of forming a ferromagnetic layer on at least one surface of a dielectric material that may serve as an inductive core on a printed circuit board or a multichip module. Conductive leads can form two separate coils around the core to form a transformer, and a planar conducting sheet can be placed on or between one or more of the dielectric layers as magnetic shielding. The core can be formed at least in part by electroless plating, and electroplating can be used to add a thicker layer of less conductive ferromagnetic material. Ferromagnetic layers are formed by dipping the dielectric surface in a solution containing catalytic metal particles having a slight dipole, and placing the surface in a metal salt to cause a layer containing metal to be electrolessly plated upon the dielectric. Surface roughening techniques can be used before the dipping to help attract the catalytic particles.